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AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the Application:

Listing of the Claims

Pending Claims

1 - 11 (canceled)

12. (previously presented) The process according to claim 21 wherein the immiscible peracid-containing phase is an aqueous liquid formed by admixing, water, a source of acetic acid, and a source of hydrogen peroxide in amounts which provide at least one mole acetic acid for each mole of hydrogen peroxide.

13. (canceled)

14. (previously presented) The process according to claim 12 wherein the treating of recovered organic phase includes contacting all or at least a portion of the recovered organic phase with at least one solid sorbent comprising alumina.

15. (currently amended) The process according to claim 12 wherein the treating of recovered organic phase includes contacting all or at least a portion of the recovered organic phase with at least one immiscible liquid comprising a solvent having a dielectric constant ~~suitable~~ in a range from about 24 to about 80 to selectively extract oxidized sulfur-containing and/or nitrogen-containing organic compounds.

16. (canceled).

17. (original) The process according to claim 15 wherein the solvent comprises a compound selected from the group consisting of water, methanol, ethanol and mixtures thereof.

18. (original) The process according to claim 17 further comprising blending at least a portion of the low-boiling fraction with the product containing less sulfur and/or less nitrogen than the oxidation feedstock to obtain components for refinery blending of a transportation fuel.

19. (previously presented) The process according to claim 12 wherein the treating of recovered organic phase includes contacting all or at least a portion of the recovered organic phase with at least one immiscible liquid comprising an aqueous solution of a soluble basic chemical compound selected from the group consisting of sodium, potassium, barium, calcium and magnesium in the form of hydroxide, carbonate or bicarbonate.

20. (original) The process according to claim 19 wherein the soluble basic chemical compound is sodium bicarbonate, and the treating of the organic phase further comprises subsequent use of at least one other immiscible liquid comprising methanol.

21. (currently amended) A process for the production of refinery transportation fuel or blending components for refinery transportation fuel, which process comprises:

hydrotreating a petroleum distillate consisting essentially of material boiling between about 50° C. and about 425° C. by a process which includes reacting the petroleum distillate with a source of hydrogen at hydrogenation conditions in the presence of a hydrogenation catalyst to assist by hydrogenation removal of sulfur and/or nitrogen from the hydrotreated petroleum distillate;

fractionating the hydrotreated petroleum distillate by distillation to provide at least one low-boiling blending component consisting of a sulfur-lean, mono-aromatic-rich fraction, and a high-

boiling feedstock consisting of a sulfur-rich, mono-aromatic-lean fraction;

contacting at least a portion of the high-boiling feedstock with an immiscible aqueous phase comprising at least one organic peracid or precursors of organic peracid, in a liquid reaction mixture maintained substantially free of catalytic active metals and/or active metal-containing compounds and under conditions suitable for oxidation of one or more of the sulfur-containing and/or nitrogen-containing organic compounds at temperatures in a range upward from about 50° C. to about 150° C.;

separating at least a portion of the immiscible peracid-containing phase from the reaction mixture to recover an essentially organic phase from the reaction mixture;

treating at least a portion of the separated peracid-containing phase to remove at least a portion of the sulfur-containing and nitrogen-containing organic compounds and water contained therein, and thereafter recycling to the reaction mixture at least a portion of the treated peracid-containing phase having a water content of less than 60 percent by volume; and

treating at least a portion of the recovered organic phase with a solid sorbent, an ion exchange resin, and/or a suitable immiscible liquid containing a solvent or a soluble basic chemical compound, to obtain a product containing less sulfur and/or less nitrogen than the feedstock.

22. (previously presented) The process according to claim 21 wherein the conditions of oxidation include temperatures in a range upward from about 80° C. to about 125° C. and sufficient pressure to maintain the reaction mixture substantially in a liquid phase.

23. (currently amended) The process according to claim 26 [[21]] further comprising treating at least a portion of the separated peracid-containing phase to remove at least a portion of the sulfur-containing and nitrogen-containing organic compounds and water

contained therein, and thereafter recycling to the reaction mixture at least a portion of the treated peracid-containing phase having a water content of less than 60 percent by volume.

24. (previously presented) The process according to claim 21 wherein the high-boiling oxidation feedstock consists essentially of material boiling between about 200° C. and about 425° C.

25. (previously presented) The process according to claim 21 further comprising blending the product containing less sulfur and/or less nitrogen than the oxidation feedstock with at least a portion of the blending component consisting of a sulfur-lean, mono-aromatic-rich fraction to obtain components for refinery blending of transportation fuels.

26. (new) A process for the production of refinery transportation fuel or blending components for refinery transportation fuel, which process comprises:

hydrotreating a petroleum distillate consisting essentially of material boiling between about 50° C. and about 425° C. by a process which includes reacting the petroleum distillate with a source of hydrogen at hydrogenation conditions in the presence of a hydrogenation catalyst to assist by hydrogenation removal of sulfur and/or nitrogen from the hydrotreated petroleum distillate;

fractionating the hydrotreated petroleum distillate by distillation to provide at least one low-boiling blending component consisting of a sulfur-lean, mono-aromatic-rich fraction, and a high-boiling feedstock consisting of a sulfur-rich, mono-aromatic-lean fraction;

contacting at least a portion of the high-boiling feedstock with an immiscible aqueous phase having a water content of less than 60 percent by volume and comprising at least one organic peracid or precursors of organic peracid, in a liquid reaction mixture maintained substantially free of catalytic active metals and/or active metal-containing compounds and under conditions suitable

for oxidation of one or more of the sulfur-containing and/or nitrogen-containing organic compounds at temperatures in a range upward from about 50° C. to about 150° C.;

separating at least a portion of the immiscible peracid-containing phase from the reaction mixture to recover an essentially organic phase from the reaction mixture; and

treating at least a portion of the recovered organic phase with a solid sorbent, an ion exchange resin, and/or a suitable immiscible liquid containing a solvent or a soluble basic chemical compound, to obtain a product containing less sulfur and/or less nitrogen than the feedstock.